EXHIBIT 1

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Abstract

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Grant Number: 5R01GM024263-03
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Project Title: GENETIC TRANSFER IN MAMMALIAN SOMATIC CELLS

Abstract: *We are continuing our studies on the DNA transformation of mammalian cells with special emphasis on the development of new procedures for increasing the frequency of transformation. During the past year we have been successful in our major objective in this research project which is to develop a system for genetic transfer in somatic cells using isolated DNA fragments. The frequency of transfer is still relatively low but we have already identified several parameters that may be useful for improving the efficiency of transfer. We have continued to follow the fate of DNA absorbed to recipient cells and to use this technique to develop procedures for improving the efficiency of DNA transformation. Because of its versatility we have chosen to use a homologous system with Chinese Hamster Ovary cells (CHO) as both recipients and donors. Toward this end we have screened a large number of both spontaneous and induced mutants for ouabain resistance, amphotericin B resistance, and growth in minimal medium (auxotrophic markers). Highly purified DNA was prepared from 30 of the mutant strains for use as donor transforming DNA, and from the recipient for control DNA. The addition of DNA from resistant cell lines yields a 2 to 10 fold increase above background in the number of surviving clones. Our major objective for the present is to verify the marker stability and resistance levels of transformants in order to prove that the donor characteristics is indeed acquired from the donor cell.*

Thesaurus Terms:
GENETICS STUDY SECTION, GENETICS, SOMATIC CELL AND TRANSFORMATION CELL HYBRIDS, GENETICS, CHROMOSOMES, GENETICS, CHROMOSOMES, CHROMATIN, GENETICS, MICROBIAL, TRANSFORMATION MICROBIAL, GLYCOSYLTRANSFERASES, IMP:PYROPHOSPHATE PHOSPHORIBOSYLTRANSFERASE, NUCLEIC ACIDS, DNA BACTERIAL BACTERIA, BRUCELLACEAE, HEMOPHILUS INFLUENZAE, CELLS (ORGANISMS), EUKARYOTIC (SEE ALSO SPECIFICS), HUMAN, TISSUES, FLUIDS ETC. FROM NON-RELATED SOURCES OUTSIDE IMMEDIATE PROJECT, MAMMALS, RODENTS, MYOMORPHA, HAMSTERS, MAMMALS, RODENTS, MYOMORPHA, MICE (LABORATORY), TISSUE (CELL) CULTURE, CLONE CELLS

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